

We claim:

1. A method for solvent extraction of analytes from a sample, said method comprising,

dynamically contacting an analyte containing sample in an extraction cell with a preheated solvent extraction fluid under elevated temperatures and regulated pressures within a specified range or at a specified value to non-selectively extract said analytes from said sample, said solvent system being in liquid form under the conditions of temperature and pressure and during extraction.

2. The method of claim 1 wherein said solvent comprises one or more than one organic solvent.

3. The method of claim 2 wherein said solvent comprises at least two organic solvents.

4. The method of claim 1 wherein said regulated pressure is from about 10 to about 30 bar.

5. The method of claim 1 wherein said temperature is from about 100 to about 200 degrees Celsius.

6. The method of claim 1 wherein the pressure is below about 30 bar.

7. The method of claim 1 wherein said sample fills said extraction cell.

8. The method of claim 1 wherein said extraction cell is full of a mixture comprising the sample and an inert filler.

9. The method of claim 1 wherein the contact with solvent occurs for between about 5 and about 200 minutes.

10. The method of claim 1 wherein the contact with solvent occurs for about 20 to about 25 minutes.

11. The method of claim 1 wherein, after about 20 or 25 minutes of contact with solvent no more than about 10% more of said analytes can be extracted in said method for an additional 20 minutes.

12. The method of claim 1 wherein the solvent is methanol.

13. The method of claim 1 wherein the sample is selected from a botanical or herbal preparation.

14. The method of claim 1 wherein said solvent comprises one or more organic solvents selected from the group consisting of perchloroethylene, isooctane, hexane, acetone, methylene chloride, toluene, methanol, chloroform, ethanol, tetrahydrofuran, acetonitrile, methyl ethyl ketone, pentane, N-methylpyrrolidone, cyclohexane, dimethyl formamide, xylene, ethyl acetate, chlorobenzene, methoxyethanol, morpholine, pyridine, piperidine, dimethylsulfoxide, ethoxyethanol, isopropanol, propylene carbonate, petroleum ether, diethyl ether, dioxane, and mixtures thereof.

15. The method of claim 1 wherein said solvent contains an additive.

16. The method of claim 15 wherein said additive is selected from trifluoroacetic acid, citric acid, acetic acid, trimethyl amine, and trimethyl ammonium hydroxide.

17. The method of claim 1 wherein said analytes include at least one analyte selected from aristolochic acids, berberine, and strychnine.

18. The method of claim 1 wherein no microwave energy is used.

19. The method of claim 1 further comprising detection of said analytes.

20. The method of claim 1 wherein the dynamically contacting is at a flow rate of about 1 ml/min solvent.

21. The method of analyzing analytes extracted from a sample comprising the method of claim 1 further comprising analysis of said analytes by a technique selected from the group consisting of gas chromatography, mass spectrometry, ion chromatography, liquid chromatography and capillary electrophoresis.

22. An apparatus for dynamic extraction of analytes from a sample with a heated solvent comprising

an extraction cell capable of containing said sample and containing a solvent line input connector and a solvent line output connector for solvent lines,

a heating assembly capable of heating said extraction cell and the solvent line in contact with said input connector,

a pump linked to said extraction cell via said input connector and capable of delivering solvent to said cell, and

a backpressure regulator linked to said cell via said output connector and capable of regulating pressure in said cell.

23. The apparatus of claim 22 wherein said heating assembly comprises a preheating coil in contact with said solvent line in contact with said input connector.

24. The apparatus of claim 22 further comprising a collection means for extracted analytes.

25. The apparatus of claim 22 wherein said solvent comprises one or more than one solvent.

26. The apparatus of claim 22 wherein said solvent comprises at least two organic solvents.

27. The apparatus of claim 22 wherein said backpressure regulator limits pressure in said extraction cell to be from about 10 to about 30 bar.

28. The apparatus of claim 22 wherein said extraction cell is maintained at a temperature from about 100 to about 200 degrees Celsius.

29. The apparatus of claim 22 wherein the solvent is methanol.

30. The apparatus of claim 22 wherein the sample is selected from a botanical or herbal preparation.

31. The apparatus of claim 22 wherein said solvent comprises one or more organic solvents selected from the group consisting of perchloroethylene, isooctane, hexane, acetone, methylene chloride, toluene, methanol, chloroform, ethanol, tetrahydrofuran, acetonitrile, methyl ethyl ketone, pentane, N-methylpyrrolidone, cyclohexane, dimethyl formamide, xylene, ethyl acetate, chlorobenzene, methoxyethanol, morpholine, pyridine, piperidine, dimethylsulfoxide, ethoxyethanol, isopropanol, propylene carbonate, petroleum ether, diethyl ether, dioxane, and mixtures thereof.

32. The apparatus of claim 22 wherein said solvent contains an additive.

35. The apparatus of claim 22 wherein said pump delivers solvent at a flow rate of about 1 ml/min solvent.